

OXC - 3751
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23 July 1962

MEMORANDUM FOR THE RECORD

SUBJECT : Trip Report [] 18-19 July 1962
Wright-Patterson AFB and Eastman Lincoln Facility

PURPOSE : Examine results of X-15 hot window photography and orientation on Lincoln Facility.

1. Visited [] at ASD, 18 July, regarding subject program and future wind tunnel tests of photographic windows at high altitudes and speeds.

a. Recent flight of X-15 at 100,000 feet and M=3 yielded good photographic results throughout early part of flight profile. About 3 minutes after drop off an unsharp line developed about 20% of the distance in from the left side of the format and progressed laterally across the flight direction leaving a rhomboid pattern of low resolution (about 5 lines/mm) obscuring the central portion of the format. The edges of the format were sharp, approaching 90 lines/mm.

[] is confident that this degradation was caused by pressure on the corrector plate of the camera applied by the shrinking of a stainless steel positioning collar as the camera compartment dropped in temperature to 20°F. Another X-15 flight is scheduled in the near future at 70,000 feet altitude straight and level.

b. The Air Force does not have any immediate plans for wind tunnel tests to explore photographic windows at high temperatures and in non laminar flow conditions until next year.

[] said that if the money was available he could probably let a contract and get some results in about two months depending upon availability of windows, test time and complexity of instrumentation. He recommended [], to conduct the tests possibly with [] as a consultant. [] would monitor project.

2. 19 July visited Lincoln Facility, Rochester, New York, and discussed program with []

a. [] V/H sensor has been breadboarded and Eastman will approve design during week ending 27 July. If approval is given

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sensor will be delivered end of December. Eastman Kodak would like permission to have [] make three parts of all components since set up time for making one only part runs over-all cost up and the other two units can be delivered about three months earlier.

b. Processing at X and L facilities:

Production rate 24 hours period and manpower requirements at X and L facilities

Facility	Facility
<u>X</u>	<u>L</u>
2 negative processing machines	2 negative processing machines
Capability 55,000'/24 hrs	28,800'/24 hrs
2 dupe machines 144,000'/24 hrs	4 dupe machines 144,000'/24 hrs
Estimated operating time .95	Estimated operating time .75
136,800'	108,000'/24 hrs
	less 15% rejection=91,800'/24 hrs.

Comments - Capacity of negative machines is not significant since rate is much higher than is needed.

~~Development Division~~
OSA-DD/R

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